

Application No.: 10/632,499
Filed: August 1, 2003
Amendment dated: July 10, 2007
Reply to Office Action of January 10, 2007

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

Claim 1 (currently amended): A method for optimizing the image quality of movable subjects imaged with a microscope system, comprising the following steps:

- a) acquiring ~~a plurality of images~~, each image having a plurality of pixels;
- b) determining a respective displacement vector field from a comparison of the pixels of each two chronologically successive acquired images;
- e) identifying a trajectory for each pixel of the ~~image~~ acquired images from the displacement vector fields; and
- d) applying an operation to the ~~image data~~ acquired images along ~~[[a]]~~ the identified trajectory.

Claim 2 (currently amended): The method as defined in Claim 1, wherein the operation along the identified trajectory is a deconvolution, a smoothing, an averaging filter, or any an operation acting in time-lateral fashion.

Claim 3 (currently amended): The method as defined in Claim 1, wherein the ~~plurality of~~ acquired images are conveyed to an image memory; and ~~parallel therewith~~, data obtained from the ~~plurality of~~ acquired images are conveyed to an optical flow calculator, ~~and to a~~ trajectory tracker, and to a trajectory memory.

Claim 4 (currently amended): The method as defined in Claim 3, wherein for the application of a filter the operation, data of the acquired images ~~can be~~ is retrieved from the image memory~~[[,]]~~ and corresponding trajectory data ~~can be~~ is retrieved from the trajectory memory, ~~and can be~~ in a correlated way.

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Claim 5 (currently amended): The method as defined in Claim 4, wherein the data generated by application of the ~~filter can be~~ operation is conveyed to a second image memory.

Claim 6 (original): The method as defined in Claim 1, wherein the microscope system contains a scanning microscope or a conventional microscope.

Claim 7 (currently amended): An arrangement for optimizing the image quality of movable subjects imaged with a microscope system, ~~the microscope system~~ comprising:
at least one objective defining an image window,
a detector unit for acquiring ~~a plurality of~~ images, each image having a plurality of pixels,
a computer system, ~~which encompasses~~ comprising
a means for determining a respective displacement vector field from a comparison of the ~~respective~~ pixels of at least two chronologically successive acquired images,
a means for identifying a trajectory for each pixel of the ~~image~~ acquired images from the displacement vector fields, and
a means for applying an operation to the ~~image data~~ acquired images along ~~[[a]]~~ the identified trajectory.

Claim 8 (currently amended): The arrangement as defined in Claim 7, wherein the means for applying an operation to the ~~image data~~ acquired images along a the identified trajectory ~~encompasses is chosen from:~~ a deconvolution means, a smoothing means, or an averaging filter means, or ~~any~~ a means for operation operating acting in time-space time-lateral fashion.

Claim 9 (currently amended): The arrangement as defined in Claim 7, ~~wherein~~ further comprising

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a first image memory ~~is provided which stores~~ storing the data ~~of the plurality of~~
acquired images;

a trajectory memory storing trajectory data obtained from the acquired images;
and

a second image memory ~~is provided which stores~~ storing the data images created
by the correlation of the data images from the first image memory with the trajectory data
from a the trajectory memory.

Claim 10 (original): The arrangement as defined in Claim 7, wherein the microscope
system encompasses a scanning microscope or a conventional microscope.

Claim 11 (currently amended): Computer-usable software on a data computer-readable
medium, wherein the software causes a microscope system to carry out a method as
defined in one of Claims 1 through 6.